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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,611	12/20/2005	Wolfram Stuer	12810-00181-US1	6531

23416 7590 10/16/2007  
CONNOLLY BOVE LODGE & HUTZ, LLP  
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WILMINGTON, DE 19899

EXAMINER
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PUTTLITZ, KARL J

ART UNIT	PAPER NUMBER
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1621

MAIL DATE	DELIVERY MODE
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10/16/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/561,611

Applicant(s)

STUER ET AL.

Examiner

Karl J. Puttlitz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

KARL PUTTLITZ  
PATENT EXAMINER

10/5/2007

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

By a docketing error two office actions were sent out in the captioned application.  
The instant office action replaces all previous grounds of rejection.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6 and 13 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how the reaction mixture can comprise a catalyst other than rhodium when claim 1 requires that rhodium be present.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 30 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Alderson et al., JACS, 87(24), 1965 (Alderson).

Alderson teaches the distillation of a reaction product of methyl acrylate dimerization reaction from rhodium and ruthenium catalysts, see page 5643, right column, bottom.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alderson in view of U.S. 5,099,048 to Brookhart et al. (Brookhart).

The rejected claims cover specific rhodium catalyst not specifically disclosed by Alderson. However, it is for this proposition that the examiner joins Brookhart. Specifically, Brookhart teaches that the claimed catalysts are useful for olefin dimerization, see columns 1 and 2. Therefore it would have been obvious to substitute the catalyst of Brookhart for those disclosed by Alderson with a predictable result of obtaining the desired dimer product.

Claims 9-18 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alderson in view of Brookhart, in further view of Catalysis in Kirk-Othmer Encyclopedia of Chemical Technology, pp. 200-254, Copyright © 2002 by John Wiley & Sons, Inc, Article Online Posting Date: August 16, 2002 (Kirk Othmer).

The rejected claims cover those embodiments wherein the dimerized product is further hydrogenated. In this regard, Kirk Othmer teaches that rhodium complexes are routine for hydrogenation of di-functionalized olefins, see pp. 210-213. In this connection, it would have been obvious to use rhodium complexes to further provide saturated compounds since Kirk Othmer teaches that this step is routine for providing hydrogenated products.

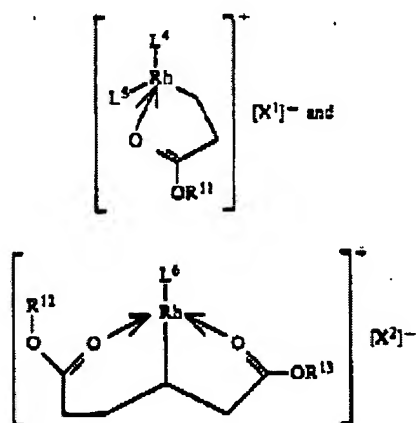
Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,099,061 (US 061) in view of U.S. Patent No. 4,889,949 (US 949) and U.S. Patent No. 4,927,959 (US 957).

The claims cover, inter alia, A distillation process comprising: removing a compound that includes at least two functional groups which are each independently selected from the group consisting of nitrile group, carboxylic acid group, carboxylic ester group and carboxamide group, from a mixture, wherein the mixture comprises the compound that includes the at least two functional groups, and a compound which is homogeneous with respect to the mixture and comprises rhodium, by distillation wherein the distillation is conducted at an average mean residence time from 1 to 45 minutes, see claim1.

US 061 teaches a process to homodimerize or codimerize functionalized terminal olefins in a linear, tail-to-tail fashion, or to dimerize functionalized terminal olefins with terminal alkenes. The products of the process of this invention are linear, functionalized

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olefins in which a carbon-carbon bond has been formed between the methylene carbons of the olefin reactants. The catalysts are as follows:



The examiner notes that US 061 contemplates different functionalized olefins and their products by the term “dimerize functionalized terminal olefins”, and therefore, the producing claimed products comprising nitriles, carboxy and carboxamides are well within the expectation of success of those of ordinary skill, based on US 061 since this reference describes a general process for dimerization of these compounds.

The difference between US 061 and the process covered by the rejected claims is that US 061 fails to explicitly teach recovery of the compound with two functionalities by distillation.

However, recovery of these products from a dimerization process mixture by distillation, is well within the purview of those of ordinary skill, see for example, US957 at column 4, lines 33+ and US 949 at column 5, lines 20+. Therefore, since US 957 and US 949 both teach methods of recovering products of the kind claimed from dimerization mixtures by distillation, it would have been obvious to those to substitute

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distillation in the process of US 061 to achieve a predictable result of isolating desired products.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-34 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-36 of copending Application No. 10/560740. Although the conflicting claims are not identical, they are not patentably distinct from each other because the conflicting claims recite a process for the dimerization of olefinic compounds, hydrogenation and separation from rhodium catalysts, and therefore render the instant claims *prima facie* obvious.

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This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl J. Puttlitz whose telephone number is (571) 272-0645. The examiner can normally be reached on Monday to Friday from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler, can be reached at telephone number (571) 272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
KARL PUTTLITZ  
PATENT EXAMINER

